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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/320,946      | 05/26/1999  | KAZUYA KAMON         | 027260-295          | 5658             |

21839 7590 05/22/2002

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EXAMINER

MOHAMEDULLA, SALEHA R

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1756

DATE MAILED: 05/22/2002

18

Please find below and/or attached an Office communication concerning this application or proceeding.

|                        |                        |                     |  |
|------------------------|------------------------|---------------------|--|
| <b>Advisory Action</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                        | 09/320,946             | KAMON, KAZUYA       |  |
|                        | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                        | Saleha R. Mohamedulla  | 1756                |  |

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 03 May 2002 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

a)  The period for reply expires 4 months from the mailing date of the final rejection.

b)  The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.  
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1.  A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.

2.  The proposed amendment(s) will not be entered because:

- (a)  they raise new issues that would require further consideration and/or search (see NOTE below);
- (b)  they raise the issue of new matter (see Note below);
- (c)  they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d)  they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_.

3.  Applicant's reply has overcome the following rejection(s): NONE.

4.  Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5.  The a) affidavit, b) exhibit, or c) request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.

6.  The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7.  For purposes of Appeal, the proposed amendment(s) a) will not be entered or b) will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_.

Claim(s) objected to: \_\_\_\_\_.

Claim(s) rejected: 1-24, 27 and 28.

Claim(s) withdrawn from consideration: 25 and 26.

8.  The proposed drawing correction filed on \_\_\_\_\_ is a) approved or b) disapproved by the Examiner.

9.  Note the attached Information Disclosure Statement(s)( PTO-1449) Paper No(s). \_\_\_\_\_.

10.  Other: \_\_\_\_\_

Continuation of 5. does NOT place the application in condition for allowance because: Applicant has submitted numerous references describing phase shift masks and argues the reference teachings. The references as well as Applicant's new arguments directed to the new references require further consideration and/or search. The references appear to be used to argue against prior art continuously applied throughout prosecution. Applicant argues that Hur and Lee do not teach phase shift patterns in the substrate. However, the groove or trench in the substrate has edges that are the surfaces of the substrate. The shading film is formed on these surfaces of the substrate. Because the phase shift pattern is directly on the shade pattern, the phase shift pattern is part of the shade pattern. When light is used to expose a substrate with the mask, the shade pattern and the phase shifting pattern are exposed together with the same light and form a specific pattern. Applicant also argues that the shade patterns are not formed on a surface of the substrate because they are formed in a trench of the substrate. However, the trench of the substrate contains a surface of the substrate on which the shade pattern is formed. Applicant also argues that Hur or Lee does not teach selectively etching the transparent substrate to form the phase shift pattern in the transparent substrate. However, the references teach etching the substrate to form a trench or groove, depositing a shading material into the trench or groove, and forming a phase shifting material layer on top of the opaque layer. This process and structure creates a specific phase shift pattern. The etching of the substrate to form this pattern must be performed for the phase shift to work correctly. Therefore, Hur or Lee teaches that the etching of the substrate forms a phase shift pattern. Applicant also argues that Hur, Lee, Tanabe or Mitsui teaches a phase shifting mask while claim 28 does not require a phase shifting feature. However, claim 28 utilizes the transitional term "comprising" and thus does not preclude phase shifting features. Applicant argues that Tanabe or Mitsui does not teach a mask without a phase shifter as claimed in claim 1 and 16. However, claims 1 and 16 do not require the absence of a phase shifter. The Examiner stated in previous Office actions that planarization in Lee and Hur was inherent because the substrates were flat. Applicant's arguments that the references do not teach planarization are drawn to discussions concerning newly submitted references. Therefore, Applicant's arguments are not persuasive.



SPM

5/17/02

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